Trend Study 16R-5-04

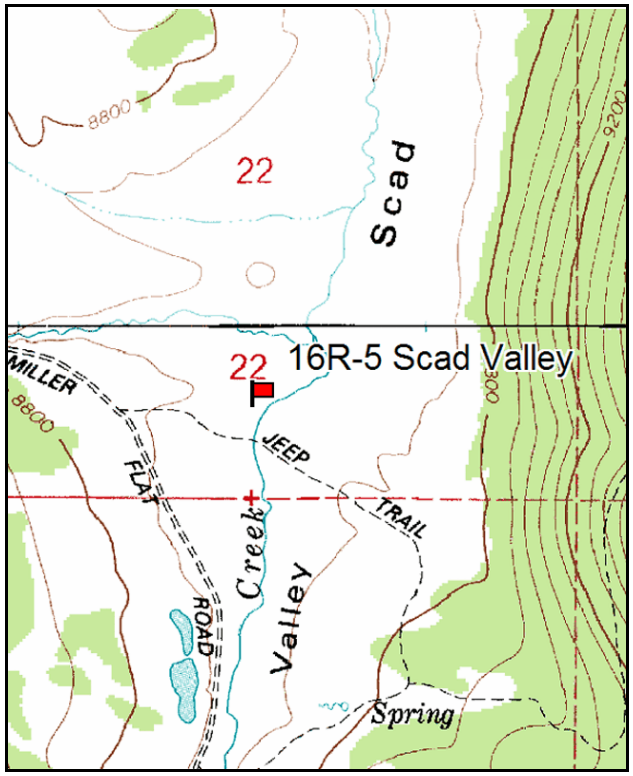
Study site name: Scad Valley . Vegetation type: Meadow .

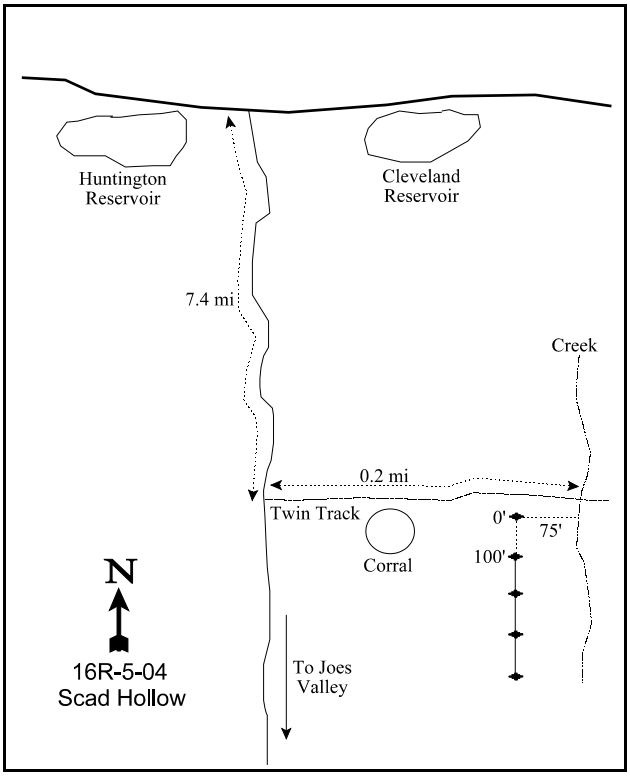
Compass bearing: frequency baseline 185 degrees magnetic.

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

On State Route 31 turn south between Huntington Reservoir and Cleveland Reservoir. Travel 7.4 miles toward Joe's Valley. There will be a twin track on the left hand side. Turn onto this and drive 0.2 miles to the creek. Walk 75 feet west of the creek to the beginning of the frequency baseline. The 0-foot stake is marked with browse tag #455.





Map Name: Rilda Canyon

Diagrammatic Sketch

Township 15S , Range 6E , Section 22

GPS: NAD 27, UTM 12S 4371880 N, 479570 E

DISCUSSION

Scad Valley - Trend Study No. 16R-5

The Scad Valley site was established in 1998 to monitor sheep use where old sheep corrals were removed by the Forest Service and new corrals were built away from the riparian area. This areas is part of the Horse Creek grazing allotment managed by the Forest Service. The site has a slope of about 3% with a east aspect. Elevation is approximately 8,500 feet. It samples a meadow community approximately 75 feet from Scad Valley Creek. Pellet group data from 1998 estimate 11 sheep days use/acre (28 sdu/ha). Sheep pellets were old and most likely from previous season. Pellet group data from 2004 estimate 33 sheep days use/acre (81 sdu/ha). Sheep use was from this season and sheep were located on the site during data collection.

The soil is very deep with an effective rooting depth estimated at 33 inches. Soil texture is a loam with a slightly acidic pH (6.3). There is very little rock in the soil profile or on the surface. Stoniness measurements are more a reflection of soil compaction since no rock was hit. Phosphorus is limited at only 5.9 ppm and potassium is limited as well at 3.2 ppm. Phosphorus less than 10 ppm and potassium less than 70 ppm can limit normal plant growth and development. Organic matter is fairly high at 5.1%. The ground is covered with a moderate percent of litter and vegetation with little bare soil exposed. Bare ground that is exposed is mostly due to gopher activity. No signs of erosion due to thick vegetation cover. The erosion condition class determined soil movement as stable in 2004.

Silver sagebrush is the key browse on this site. Density of silver sagebrush was estimated at 2,980 plants/acre in 1998 and 3,200 in 2004. Browse cover only accounted for 6% of total vegetation cover in 1998 and 4% in 2004. The silver sagebrush is mostly a mature population, although seedlings and young plants were abundant in 1998 and much lower in 2004. Utilization was light, vigor was good, and percent decadence was low at 4%. A few mountain big sagebrush and low rabbitbrush are on the site, although in very low numbers.

The herbaceous understory account for the majority of the vegetation cover. Perennial grasses accounted for 36% of total cover in 1998 and 39% in 2004. Kentucky bluegrass (an increaser species with moderate grazing) is the dominate grass and was 67% of the grass cover in 1998 and 65% in 2004. Other common perennial grasses and grass-like plants include carex spp, tufted hair-grass, and Baltic rush. Forbs are abundant and accounted for 58% of total cover in 1998 and 2004. Dominate forbs include cinquefoil spp, common dandelion, aster spp, a thistle spp, orange sneezeweed, yarrow, and false dandelion.

1998 APPARENT TREND ASSESSMENT

Protective ground cover is adequate to prevent serious erosion on the site. The apparent browse trend is stable with adequate numbers of seedlings and young, and low percent decadency for the preferred browse species, silver sagebrush. Utilization is generally light and vigor is good. The herbaceous understory is very abundant and diverse providing protective ground cover for the soil.

2004 TREND ASSESSMENT

Trend for soil is stable. Percent bare ground has more than doubled since last reading, but this is mostly likely due to gopher activity. Sum of nested frequency has remained fairly constant for vegetation cover, although vegetation cover has declined, but still is adequate to prevent soil erosion. Trend for key browse is slightly up. Density for mature silver sagebrush has increased from 1,680 plants/acre in 1998 to 2,660 in 2004. Utilization is light, vigor is good, and percent decadence is low. Recruitment is down from 1998, but there is still a fair amount of young plants in the population. Trend for herbaceous understory is stable. Sum of nested frequency and cover have remained fairly stable for grasses and forbs.

TREND ASSESSMENT
soil - stable (3)
browse - up slightly (4)
herbaceous understory - stable (3)

HERBACEOUS TRENDS --
Management unit 16R, Study no: 5

Type	Species	Nested Frequency '98	Nested Frequency '04	Average Cover % '98	Average Cover % '04
G	Agropyron trachycaulum	11	13	.08	.18
G	Carex spp.	b140	a77	3.26	3.29
G	Deschampsia caespitosa	b114	a80	.93	2.69
G	Festuca ovina	b19	a3	1.97	.03
G	Hordeum brachyantherum	-	5	-	.15
G	Juncus balticus	109	105	1.20	2.87
G	Muhlenbergia spp.	8	-	.30	-
G	Phleum alpinum	-	6	-	.06
G	Phleum pratense	b16	a3	.06	.03
G	Poa pratensis	389	425	16.33	17.96
G	Stipa columbiana	10	7	.10	.24
Total for Annual Grasses		0	0	0	0
Total for Perennial Grasses		816	724	24.27	27.53
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F	Achillea millefolium	254	225	3.13	3.57
F	Agoseris spp.	a-	b94	-	2.62
F	Antennaria rosea	11	11	.56	.33
F	Arabis spp.	-	3	-	.00
F	Aster spp.	181	196	3.42	5.24
F	Cirsium spp.	b159	a110	6.72	5.94
F	Erigeron pumilus	-	1	-	.00
F	Fragaria virginiana	-	5	-	.06
F	Helenium hoopesii	90	73	5.19	2.82
F	Polygonum douglasii (a)	-	4	-	.00
F	Potentilla gracilis	a-	b52	-	1.66
F	Potentilla spp.	210	200	11.37	11.27
F	Taraxacum officinale	b307	a236	7.90	6.70
F	Trifolium spp.	97	91	1.12	.75

Type	Species	Nested Frequency		Average Cover %	
		'98	'04	'98	'04
Total for Annual Forbs		0	4	0	0.00
Total for Perennial Forbs		1309	1297	39.44	40.99
Total for Forbs		1309	1301	39.44	41.00

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --
Management unit 16R, Study no: 5

Type	Species	Strip Frequency		Average Cover %	
		'98	'04	'98	'04
B	Artemisia cana	29	36	3.74	2.54
B	Chrysothamnus viscidiflorus viscidiflorus	0	1	-	-
Total for Browse		29	37	3.74	2.54

CANOPY COVER, LINE INTERCEPT --
Management unit 16R, Study no: 5

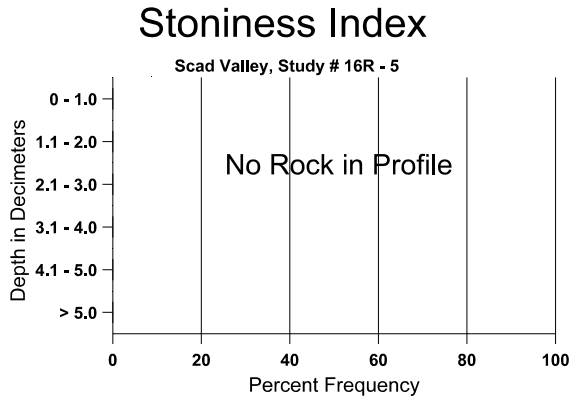
Species	Percent Cover
	'04
Artemisia cana	6.05

BASIC COVER --
Management unit 16R, Study no: 5

Cover Type	Average Cover %	
	'98	'04
Vegetation	81.47	72.86
Rock	0	.01
Pavement	.03	.00
Litter	2.58	7.30
Cryptogams	6.65	4.98
Bare Ground	7.73	21.65

SOIL ANALYSIS DATA --
Management unit 16R, Study no: 5, Study Name: Scad Valley

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	ds/m
33.5	46.0 (18.1)	6.3	44.7	28.7	26.6	5.1	5.9	3.2	0.5



PELLET GROUP DATA --
Management unit 16R, Study no: 5

Type	Quadrat Frequency	
	'98	'04
Sheep	6	10
Cattle	-	1

Days use per acre (ha)	
'98	'04
11 (28)	33 (81)
-	-

BROWSE CHARACTERISTICS --
Management unit 16R, Study no: 5

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Artemisia cana												
98	**2980**	820	1300	1680	-	-	0	0	0	-	0	14/16
04	**3200**	-	420	2660	120	-	4	0	4	-	0	13/20
Artemisia tridentata vaseyana												
98	**0**	-	-	-	-	-	0	0	-	-	0	-/-
04	**0**	-	-	-	-	-	0	0	-	-	0	16/34
Chrysothamnus viscidiflorus viscidiflorus												
98	**0**	-	-	-	-	-	0	0	-	-	0	-/-
04	**20**	-	-	20	-	-	0	0	-	-	0	-/-
Potentilla fruticosa												
98	**0**	-	-	-	-	-	0	0	-	-	0	-/-
04	**0**	-	-	-	-	-	0	0	-	-	0	12/41